

care be taken to examine the cellules, in perfectly fresh specimens, with first-rate instruments.

The evidence for the animality of the *Porifera* is, I think, more conclusive than some naturalists of the present day are inclined to admit. I feel assured that few botanists would be disposed to claim for these organisms a truly vegetable nature. The following peculiarities taken together seem sufficient to establish their true animal nature:—The existence of distinct currents in definite directions; vibratile cilia; ciliated locomotive gemmules; peculiar animal smell of burnt gelatinous matter. I may also mention the observations of Milne-Edwards and Audouin on the Irritability of *Tethea**. Dr. Johnston informs me, that some very recent observations on a large foreign species tend remarkably to confirm the statements of Audouin and M.-Edwards. Dujardin's interesting observations on *Spongilla* also tend to prove the sponge an animal†. He noticed the remarkable property which detached portions of the granular matter of *Spongilla* possess, of spreading into "*Expansions variables en lobes arrondis, comme certaines amibes.*" Both Dujardin and Professor Allen Thomson have observed cilia in the freshwater sponge; but the existence of cilia in marine sponges has, so far as I am aware, been always denied. In conclusion, I will only allude to Mr. J. A. Carter's interesting observation of species of *Spongilla* in the water-tanks in Bombay‡. Mr. Carter confirmed and considerably extended Dujardin's observations, but did not detect cilia. All these circumstances being considered, the animality of the *Porifera* will not, I think, be so equivocal as the following concluding sentence of Professor Rymer Jones's late article on the *Porifera* seems to intimate: "The admissibility of sponges into the animal series is indeed extremely problematical, and we doubt not, that among naturalists of the present day, the balance of opinion would be unfavourable towards retaining them in the rank, which they at present occupy in zoological classification §."—*Proceedings of the Royal Medical Society of Edinburgh*.

Experimental Researches upon the Process of Fecundation in Mosses.

By M. H. PHILIBERT.

The author in concluding his memoir gives the following *résumé* of his conclusions:—

1. The *archegonium* of Mosses is a true ovule.
2. The external envelope, which has been called *epigonium*, and which afterwards becomes the calyptra, is analogous to the nucleus of the ovule of the Phanerogamia.

* Hist. Nat. du Litt. de la France, vol. i. p. 78.

† Dujardin, Hist. Nat. des Infusoires, p. 305.

‡ Notes on Sponges. Trans. Med. and Phys. Soc. Bombay, No. 8. Reprinted in the 'Annals and Mag. of Nat. Hist.' New Series, April 1848. A second paper on the same subject appeared in the third volume of the 'Annals,' 1849.

§ Cyclopædia of Anat. and Phys. vol. iv. p. 70.

3. The membranous envelope which is concealed by the epigonium and which had not hitherto been observed, represents an embryo-sac.

4. The internal body, which afterwards becomes the seta and urn, is a true embryo.

5. In the Mosses, the embryo, instead of detaching itself from the parent plant to originate a new plant, is developed in its place and gives rise to a capsule filled with spores.

6. The organs called *antheridia* are true male organs, inclosing a fecundating matter.

7. This fecundating matter is introduced by the tubular neck of the epigonium.—*Comptes Rendus*, xxxv. 137.

METEOROLOGICAL OBSERVATIONS FOR AUG. 1852.

Chiswick.—August 1. Very fine: uniformly overcast. 2. Very fine: densely clouded. 3. Partially overcast: slight shower. 4. Fine: clear. 5. Fine: slightly overcast. 6. Showers: heavy rain. 7. Cloudy: clear. 8. Fine: clear. 9, 10. Very fine. 11. Constant heavy rain. 12. Heavy rain: cloudy. 13. Very fine: clear. 14. Very fine: heavy rain at night. 15. Foggy: clear at night. 16. Heavy dew: fine: overcast. 17. Densely overcast: frequent vivid lightning and distant thunder: chiefly sheet lightning till 11 P.M., then forked lightning, with heavy thunder and rain in torrents. 18. Very fine: cloudy, with lightning at night. 19. Very fine: clear at night. 20. Overcast. 21. Light clouds: uniformly overcast. 22. Overcast: clear. 23. Cloudy and fine. 24. Overcast and mild: rain at night. 25. Cloudy and fine. 26. Slight haze: very fine: clear. 27. Very fine. 28. Foggy: remarkably dusky and dark about 9 A.M.: very fine. 29. Very fine: densely overcast: light clouds. 30. Cloudy: very fine: clear. 31. Clear: very fine.

Mean temperature of the month	63°·67
Mean temperature of Aug. 1851	62·79
Mean temperature of Aug. for the last twenty-six years ...	62·12
Average amount of rain in Aug.	2·44 inches.

Boston.—Aug. 1. Cloudy. 2. Fine. 3. Cloudy: rain P.M. 4. Fine. 5. Fine: rain P.M.: thunder and lightning. 6. Fine: rain P.M. 7, 8. Cloudy: rain P.M.: thunder and lightning. 9. Cloudy: rain P.M. 10. Fine: rain P.M.: thunder and lightning. 11. Rain: rain A.M. and P.M. 12. Cloudy: rain A.M. and P.M.: thunder and lightning. 13. Fine. 14. Fine: rain and hail P.M.: thunder and lightning. 15. Cloudy: rain A.M. 16. Fine. 17. Fine: rain P.M.: thunder and lightning. 18. Cloudy: rain early A.M. 19. Cloudy. 20. Cloudy: rain early A.M. 21—23. Cloudy. 24. Cloudy: rain A.M. and P.M. 25. Cloudy: rain A.M. 26, 27. Fine. 28. Cloudy: rain P.M. 29, 30. Fine. 31. Fine: rain and hail P.M.: thunder and lightning.

Sandwich Manse, Orkney.—Aug. 1, 2. Cloudy. 3. Cloudy: rain. 4. Bright: clear: fine. 5. Clear: fine: aurora. 6. Clear: fine. 7. Drops: clear: fine. 8. Bright: clear: fine. 9. Clear: fine. 10. Bright: fine: clear: fine: aurora. 11. Bright: fine: clear: fine. 12, 13. Bright: fine: cloudy: fine. 14. Bright: fine: clear: fine. 15. Clear: fine. 16. Cloudy: drops. 17. Fog: cloudy. 18. Drizzle: showers: clear. 19. Drizzle: bright: fine. 20. Showers: bright: fine. 21. Clear: fine: fog. 22. Fog: fine: fog. 23. Bright: fine: cloudy: fine: aurora. 24. Cloudy: fine: clear: fine. 25. Clear: fine: aurora. 26. Clear: fine: cloudy: fine. 27. Cloudy: fine. 28. Bright: fine: cloudy: fine. 29. Damp: clear: fine. 30, 31. Bright: fine: clear: fine.—This month has been very fine, warm and dry.

Mean temperature of Aug. for twenty-five years	54·75
Mean temperature of this month	60°·64
Average quantity of rain in Aug. for six years	3·05 inches.